

STEP 2. IDENTIFICATION OF ISSUES AND KEY QUESTIONS

Step 2 identifies the key issues and questions developed by the core team. This identification of issues helps focus the analysis on the key elements of the ecosystem that are most relevant to the management questions and objectives, human values or resource conditions within the watershed. Each issue is addressed in the analysis by specifically answering the key questions using the parameters listed.

Issue #1: Past management practices such as logging, grazing and road building have altered water quality within the watershed.

Key questions:

1. Does Deep Creek and its associated tributaries meet State of Oregon water quality standards?

Parameters: Temperature.

2. Where and which management activities and natural processes have resulted in degraded water quality within the watershed?

Parameters: Bank stability, percent stream shading, sediment delivery, macroinvertebrates and erosion.

3. What recommendations can be made in this document to implement a Water Quality Management Plan for the Deep Creek watershed?

Parameters: Follow Oregon Department of Environmental Quality's Guidance For Developing Water Quality Management Plans That Will Function As TMDLS For Non-point Sources, April 15, 1997.

4. Are special management recommendations necessary above the water collection system for the Town of Lakeview?

Parameters: Biological contaminants and physical disturbances that may affect water quality.

Issue #2: Functions and physical characteristics of the riparian ecosystem within the watershed have been altered from their historic condition.

Key questions:

1. How have land management activities and alteration of natural disturbance processes affected riparian ecosystems? Are these activities preventing recovery where these ecosystems are currently not functioning properly?

Parameters: Range standards including PFC (Proper Functioning Condition), utilization and suitability. Other factors include bank stability, channel morphology, soil condition, soil drainage/lowering of the water table, large woody debris and vegetative community.

2. How have changes in riparian ecosystems affected other resources such as riparian vegetation, fish and wildlife habitat, forage productivity and downstream irrigation?

Parameters: Pools, temperature, stream flows, water quality (temperature and sediment), plant composition and seral stage.

Issue #3: Past management practices such as road construction, irrigation, grazing, timber harvest, etc., have altered base flow, peak flow and timing of peak flow.

Key questions:

1. Has the natural flow regime and water available for irrigation (water rights) been altered by grazing, timber management, road building and diversion activities?

Parameters: Timing and frequency of mean flows and base flow, cumulative watershed effects, soil moisture storage, soil drainage and current disturbances.

2. How have management activities and alteration of disturbance processes affected the watershed's ability to withstand catastrophic events?

Parameters: Stream channel morphology and volume of runoff.

3. How and where have channel diversions and impoundments affected the flow regime of the Deep Creek subshed?

Parameters: Timing and frequency of mean and peak flows and stream channel morphology.

Issue #4: Management activities have modified fish and wildlife habitat conditions and have caused changes in species distribution and populations.

Key questions:

1. How have fish and wildlife abundance, distribution, diversity, habitat conditions and aquatic system processes and flows been altered?

Parameters: Past and present habitat potential, suitability, security and conditions; fish and wildlife species composition, distribution and populations; and instream barriers, large woody debris, pool habitat, bank stability, streamside cover and substrata composition, bank width to depth ratios.

2. How have management activities affected fragmentation of fish and wildlife habitat and populations which threaten species viability?

Parameters: Core late/old seral forest habitat, edge/patch and matrix habitat, cover/forage habitat, nesting/fawning/rearing habitat, security habitat, dead wood habitat, and fish and wildlife species distribution and populations and location of key refugia or hotspot habitat for threatened, endangered and sensitive species (TES), keystone and MIS species and habitat connectivity.

3. Where are the known problem areas that are contributing to reduced fish and wildlife habitat capability?

Parameters: Location and timing of management activities and natural disturbance events affecting fish and wildlife habitat abundance, condition, distribution and diversity.

Issue #5: Past management activities and alteration of natural disturbance processes, including fire exclusion, have changed the function, pattern, composition, structure and the density of vegetation within the watershed.

Key questions:

1. How have landscape patterns of plant communities and seral stages changed over time?

Parameters: Past and present landscape matrix (pattern analysis) of plant species composition (TES species, noxious weeds), size, age structure and density.

2. What caused the changes in the landscape patterns of plant communities and seral stages?

Parameters: Past and present distribution of condition class and seral stages, magnitude, intensity and location of fires in the past century, management actions in terms of logging, grazing, road construction and fire suppression.

3. How have management activities and alteration of disturbance processes affected the watershed's ability to withstand catastrophic events?

Parameters: Historic vs. current mortality, disease and insects and fire occurrence, frequency and intensity.

4. To what extent are noxious weeds invading sites within the watershed, and what strategies can be used to slow or prevent the spread of noxious weeds.

Parameters: Extent and location of noxious weeds, agents of spread or transport.

5. To what extent have native plant species expanded, been replaced by exotics, and what strategies can be used to slow or prevent the spread of exotics and restore native species?

Parameters: Extent and location of nonnative plants, replacement of native grass species with nonnative grass species, status of cottonwoods.

Issue #6: Meet peoples' needs for uses, values, products and services within the limitations of maintaining ecosystem health, diversity and productivity both now and in the future.

Key questions:

1. How should the watershed provide for future human uses and needs?

Parameters: Timber harvest opportunities and trends, livestock grazing, road access, recreation facilities and opportunities, cultural plant abundance and distribution.

2. How will roads be managed to meet present and future uses and protect all resource values?

Parameters: Open road density for public access, fire, control livestock grazing and logging systems needs, road closures and obliteration, accelerated erosion and stream sediment, fish and wildlife habitat suitability and species productivity.

3. What logging methods may be necessary to meet resource and vegetation goals and objectives and provide commercial wood products?

Parameters: Logging and road systems, soil compaction and erosion, water quality, fish and wildlife habitat suitability and species productivity, wood products availability.